

Notice of Allowability

Application No.

10/605,110

Applicant(s)

CHOU ET AL.

Examiner

Art Unit

Belur V Keshavan

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 13 August 2004.
2. ☒ The allowed claim(s) is/are 1-3,5-7,9,10,12-15 and 17-22.
3. ☒ The drawings filed on 09 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Graham S. Jones on August 30, 2004. The application has been amended as follows:

To Claims

In claim 12, line 1 change "grater" to ---greater---.

Delete claims 8 and 16.

Status Of Claims

Claims 4, 8, 11 and 16 are cancelled.

Claims 1-3, 5-7, 9,10, 12-15 and 17-22 are in the application

Allowable Subject Matter

An Examiner's Statement As To The Reasons For Allowance

Claims 1-3, 5-7, 9,10, 12-15 and 17-22 are allowed.

The following is an examiner's statement of reasons for allowance:

The invention is related to a method of forming a CMOS device with a PFET area and a NFET area on a semiconductor substrate in claims 1-3, 5-7, 9,10, 12-15, 17-19, 21 and 22 and a CMOS device with a PFET and a NFET areas formed on a semiconductor substrate in claim 20.

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The primary reason for the allowance of claims 1-3, 5-7, 9,10, 12-15, 17-19, 21 and 22 is the inclusion therein, in combination as currently claimed, of the limitation of the method for forming a CMOS device comprising inter alia the following limitations: providing a silicon substrate with PFET gate oxide layer with a first optimized concentration of nitrogen atoms to form PFET gate dielectric layer and a NFET gate oxide layer with a second optimized concentration of nitrogen atoms to form NFET gate dielectric layer wherein the optimized concentration of nitrogen atoms in PFET gate dielectric and in NFET gate dielectric are different.

The primary reason for the allowance of claim 20 is the inclusion therein, in combination as currently claimed of the limitation of a CMOS device comprising inter alia the following limitations: a silicon substrate with PFET gate oxide layer with a first optimized concentration of nitrogen atoms to form PFET gate dielectric and with NFET gate oxide layer with a second optimized concentration of nitrogen atoms to form NFET gate dielectric wherein the optimized concentration of nitrogen atoms in PFET gate dielectric and in NFET gate dielectric are different.

The limitation found in claims 1-3, 5-7, 9,10, 12-15 and 17-22 is neither disclosed nor taught by prior art of record alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belur V Keshavan whose telephone number is 571-272-1894. The examiner can normally be reached on 8-4:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BVK. *BVK*
August 30, 2004.

Belur V. Keshavan.
Examiner. Art Unit 2825.

Olik Chaudhuri
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Supervisory Patent Examiner
Technology Center 2800